Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Review of the Emergency Alert System	)	EB Docket No. 04-296
	)	

COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®

CTIA – The Wireless Association® ("CTIA")[1] respectfully submits these comments on the Commission's *Further Notice of Proposed Rulemaking* requesting comment on what actions the Commission, along with Federal, State and industry partners, should take to help expedite the development of a robust, state-of-the-art, digitally-based public alert and warning system.[2] As the industry has done with the Federal Emergency Management Agency ("FEMA") and its emergency alert pilot project, the Department of Justice and the Wireless AMBER Alert service, and the Department of Homeland Security and the Wireless Priority Access Service ("WPS"), CTIA and the wireless industry recognize the importance of this effort and appreciate the opportunity to work in a collaborative environment with the Commission. Significant resources have been dedicated to examine this issue and work toward an emergency alert capability.

The first step in the process must be to revitalize the Emergency Alert Service ("EAS") system and to establish government's needs and requirements regarding the revitalized public warning system. The industry has conducted an investigation of methods for delivering

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[1] CTIA is the international organization of the wireless communications industry for both wireless carriers and manufacturers. CTIA membership covers Commercial Mobile Radio Service ("CMRS") providers and manufacturers, including cellular, broadband PCS, ESMR, as well as providers and manufacturers of wireless data services and products.

[2] *In re Review of the Emergency Alert System*, FIRST REPORT AND ORDER AND FURTHER NOTICE OF PROPOSED RULEMAKING, EB Dkt. 04-296, FCC 05-191 at ¶ 3 (Nov. 10, 2005) ("EAS FNPRM").

emergency messages in the wireless context with the goal of balancing the industry's existing point-to-point capabilities and the perceived requirements of an Emergency Alert Service. In recognition of the continually evolving wireless industry, different point-to-point and point-to-multipoint options are being considered for the delivery of emergency alert messages. As stated in its earlier comments, CTIA agrees that the existing service, which has been operational for 40 years, should not be scrapped, but should be revitalized and improved.[3]

I. The Wireless Industry is Actively Pursuing an Emergency Alert Capability

As stated above, in spite of the lack of a service description regarding what capabilities government would require in a revised emergency alert service, the industry has continued to investigate potential emergency alert solutions. CTIA would like to highlight several industry efforts that have been underway to make the delivery of Emergency Alert Services through wireless technologies possible. Specifically, CTIA and the wireless industry are partnering with the Federal Emergency Management Agency ("FEMA") on a pilot project that initially will integrate the digital broadcast capabilities of public broadcasters with the point to point capabilities of the wireless network.[4] This capability is available to the majority of CMRS subscribers through Short Message Service ("SMS"), or text messaging.

This point to point service, however, has limitations. Under the existing capability, any alert message must conform to certain character restrictions.[5] Further, not all subscribers have

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[3] *See generally* Comments of CTIA-The Wireless Association®, EB Dkt. 04-296 (Oct. 29, 2004) ("CTIA Comments"); Reply Comments of CTIA-The Wireless Association®, EB Dkt. 04-296 (Nov. 29, 2004) ("CTIA Reply Comments"); *Letter from Paul Howard-Thurst, Lower Hudson Valley Local Emergency Communications Committee*, FCC 04-189 (Oct. 18, 2004).

[4] *See* Testimony of Christopher Guttman-McCabe, Before the United States Senate Committee on Commerce, Science and Transportation Subcommittee on Disaster Prevention and Prediction at 5-6 (July 27, 2005) ("Guttman-McCabe Testimony"); *see also* FEMA, *EAS Pilot Digital Tests Prove Successful and Forecast a Greatly Enhanced Alert and Warning System for America*, at http://www.fema.gov/news/newsrelease.fema?id=16527 (Feb. 14, 2005).

[5] *See* CTIA Reply Comments at 4.

access to the service and not all existing operational handsets are SMS capable. Perhaps most important, alerting large numbers of customers in a reasonable time frame may not be possible.

Unlike the existing Emergency Alert Network, which operates on broadcast networks designed to transmit messages from one point to multiple points, the current commercial wireless networks are designed to be point-to-point – one customer to another customer – where the network must route calls and text messages using switches and databases to direct traffic to individual users.[6] Moreover, wireless systems generally are designed to serve a percentage of their subscriber base at any given time. The simultaneous transmission of hundreds of thousands of text messages, if not millions during a national emergency, as well as the need to constantly query databases to determine the location of an end-user, would cause severe congestion and delay delivery.[7] This congestion could then affect other services that utilize the same transmission mechanisms. Congestion generated on the land line network could have a spillover impact on the CMRS network, as CMRS traffic begins to move across the landline networks.

CTIA and the industry also are investigating the point-to-multipoint delivery of EAS messages, particularly the geographic-specific delivery of point-to-multipoint messages. This effort is designed to take advantage of the constant evolution that is the hallmark of the wireless industry. Along with examining what role point-to-point could play in delivery of alert messages, given the concerns discussed above, and whether point-to-point messages can be targeted geographically, the industry is looking into what role, if any, potential point-to-multipoint solutions (for example, multi cast, cell broadcast, and a National Oceanic &

[6] *See* Testimony of Christopher Guttman-McCabe, Before the United States Senate Committee on Commerce, Science and Transportation Subcommittee on Disaster Prevention and Prediction at 3 (July 27, 2005) ("Guttman-McCabe Testimony").

[7] *See* Comments of Corr Wireless Communications, LCC, EB Dkt. 04-296 at 2 (Oct. 28, 2004).

Atmospheric Administration ("NOAA") service) could ultimately play in the emergency alert environment.

For example, the industry is investigating what type of point-to-multipoint solution, if any, could be adapted to fit any future EAS descriptions/requirements and integrated into the commercial network. These solutions would likely require the upgrade of handsets, networks, or both. One such solution would involve insertion of a chip and a receiver into a handset that would facilitate reception of EAS messages broadcast to those receivers. While these point-to-multipoint solutions likely could address concerns regarding network capacity constraints during delivery of an emergency message, they too are not without problems. First, these capabilities do not yet exist in any commercial form in the CMRS networks. Accordingly, they would likely require hardware and software upgrades, as well as handset replacement as discussed above. Second, they likely would negatively impact battery life. The ability of the phone to operate is of paramount importance during a crisis. Indeed, it is a prerequisite to receiving any alert message, no matter how it is sent. Third, they too likely could cause additional capacity concerns.

The industry is hard at work on these issues. In the CMRS environment in the United States today, there are three major standards – Global System for Mobile Communications ("GSM"), Code Division Multiple Access ("CDMA"), and Integrated Digital Enhanced Network protocols ("iDEN"). Investigations are taking place in all three platforms. While point-to-multipoint standards already have been created in the CMRS environment, additional work has begun on possibly the next generation point-to-multipoint service. The industry, for example, is exploring various multi-cast services that potentially would exceed the existing capabilities of the point-to-multipoint solutions being considered.

These potential solutions, and the difficult questions that arise, highlight the need for measured, sensible approach by government. Of note, The Warning, Alert, Response Network Act ("WARN Act"), as passed by Committee in October 2005, proposes to institute a national network for the transmission of alerts that is intended to take advantage of wireless, Internet and other advanced technologies.[8] The legislation, as currently written, is designed to enable any appropriate federal, state or local government agency to alert the public of disasters and threats.[9] Most important (and discussed in detail below), the WARN Act mirrors the process used during the creation of the Wireless Priority Service ("WPS"), whereby government (both the FCC and the Department of Homeland Security (through the National Communications System)), worked with the industry on the establishment of a service description/requirements for WPS. The government then provided both funding and liability protection during development, deployment and operation. No technology solution was advanced.[10] The same process is contemplated under the WARN Act.

II. The Commission Should Focus On Revitalizing and Improving the Existing EAS Service

CTIA recommends that the Commission focus its energy on enhancing the existing EAS. The core EAS works well and has for 40 years, with its strengths including a comprehensive coding system and the ubiquity of EAS alert technology in local broadcast and cable stations

[8] Warning, Alert, and Response Network Act, S. 1753, 109th Congress (2005). *See* U.S. Senate Committee on Commerce, Science, and Transportation, *Senate Commerce Committee Approves WARN Act*, at http://commerce.senate.gov/newsroom/printable.cfm?id=247498 (Oct. 20, 2005); FCW.com, *Senate Committee OKs National Alert Bill*, at http://www.fcw.com/article91713-12-13-05-Web (Dec. 13, 2005).

[9] *Id.*

[10] *See* Michael Hardy, *Cutting in Line*, at http://www.fcw.com/article84180 (Sept. 27, 2005) ("*Cutting in Line*").

nationwide.[11] One shortcoming however is the lack of interface with other communications technologies, including wireline, satellite, wireless and Internet.[12] Any upgrade to the Emergency Alert service should not solely rely on the wireless network, as wireless networks currently are not designed to simultaneously transmit messages to all active subscribers. A comprehensive public alert and warning system should instead incorporate the full range of communications service providers, including wireline, satellite, wireless, cable, radio, and broadcast television.[13]

Nevertheless, the deployment of wireless EAS capabilities does not necessitate a full overhaul of the current system, but rather the Commission should look to renovate the system.[14] It is simply not economically practical nor within the public interest to scrap the entire system.[15] CTIA urges the Commission to maximize the reach of any warning or alert through augmentation, rather than demolition, of the existing service.[16] The Commission notes that not all Americans receive their programming from systems that have an independent duty to provide EAS, but at the same time not all Americans utilize or have access to other communications media.[17] CTIA agrees that an effective EAS must be composed of many parts and the use of communications alternatives, such as wireless, will help to access the "last mile."[18]

III. Revitalization of the EAS Will Be Best Accomplished Through a Cooperative Effort Among the Affected Government and Industry Parties as Occurred During the

[11] *See* Linda K. Moore, CRS Report for Congress, Emergency Communications: The Emergency Alert System (EAS) and All-Hazard Warnings at 7 (Nov. 12, 2004).

[12] *Id*.

[13] *See* Guttman-McCabe Testimony at 5.

[14] *See* CTIA Comments at 6.

[15] *E.g.* CTIA Comments at 1, 5; CTIA Reply Comments at 2.

[16] *Id.*

[17] *See* EAS FNPRM at ¶ 2.

[18] *See* EAS FNPRM at E-1, ¶ 2.

Development and Deployment of the Wireless Priority Service

As discussed above, the first step in revitalizing the EAS system must involve the establishment of government needs and requirements. Many questions must be answered by government before a service can be initiated. Issues that must be addressed include, but are not limited to, who uses the system and for what purpose, when it will be utilized, what is to be delivered, and in what time frame it must be delivered. Alert protocols, including formats, source or originator identification, threat severity, hazard description, and response requirements or recommendations, must be developed so that they can be applied across the broadest variety of communication technologies, at National, State, and local levels. Moreover, the government must establish procedures for verifying, initiating, modifying, and canceling alerts transmitted via the National Alert System.

While the government must address these issues, CTIA firmly believes that a regulatory mandate on the deployment of a nationwide wireless alert and warning system is unnecessary and counterproductive.[19] The efforts discussed herein are only a part of the work done in this area and more work is needed. Ultimately, a true public/private partnership will facilitate the development and deployment of the service. Specifically, the Wireless Priority Service is an example of what can happen when government and the industry voluntarily collaborate on the creation of a new service.

The WPS is a White House-directed National Security/Emergency Preparedness program, managed through the National Communications System ("NCS").[20] WPS utilizes the commercial wireless networks to deliver priority access to key government officials during times

[19] *See* Guttman-McCabe Testimony at 7.

[20] *See* Wireless Priority Service at http://wps.ncs.gov (May 5, 2005).

of crisis and high call volume.[21] Government, through both the NCS and the FCC, worked with industry on the development of the service's requirements, and on waiver of the Commission's rules prohibiting prioritization of calls, but did not mandate a solution.[22] Instead, government worked to set the requirements of the service, provided funding to manufacturers and vendors for development of the capability, and then let the creativity and ingenuity of the wireless industry work toward a solution.[23] The result was a two-phase deployment of the service in a short time frame.

In order to facilitate development and deployment of a revitalized EAS, CTIA recommends application of the WPS model of government/industry partnership that will surely lead to a solution that takes advantage of the industry's creativity and ingenuity. Furthermore, creating a process to establish the needs and requirements of the system and answer the questions above is vital to understanding and answering questions regarding timing, as well as the cost to develop, initiate, and manage any expanded EAS system.

IV. A Number of Issues Warrant Consideration as the Government and Industry Move Forward with an EAS Solution

As government and industry move forward with a solution, the public, government and industry would benefit from consideration of the following issues:

- Service Description. As discussed above, a joint government/industry partnership to develop the requirements of any EAS system. This partnership will allow manufacturers to build to specific requirements.

- Liability relief. As with the broadcasters that currently provide the Emergency Alert Service, the wireless industry would benefit from full liability protection for delivery of any Emergency Alert message.

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[21] *Id.*

[22] *See* Guttman-McCabe Testimony at 7.

[23] *See Cutting in Line* (noting NCS applied first to carriers using GSM and iDEN and plans to extend the service to CDMA carriers by 2006).

- Designation of Authority for Development of an Emergency Alert Service. Designation of a specific authority responsible for balancing local, state and federal requirements against industry capabilities.

- Designation of Authority for Operation of an Emergency Alert Service. Designation of a specific authority tasked with operation of the Emergency Alert Service as well as creation of a clear set of rules governing who is permitted to generate messages and under what circumstances they can be generated.

- Development of a Process to Authenticate and Secure Emergency Alert Messages. Due to the possibility of a hoax transmission, this process must guarantee the integrity of the messages from the point of origination to delivery.

- Research, Development, Deployment and Implementation Support. The provision of funding to support research and development, as well as deployment and implementation, will benefit the establishment of a nationwide alert service.

V. A Sensible Emergency Alert Policy Must Take Into Account Both the Industry's Massive Investment and the Technological Developments That Propel the Industry

CTIA firmly believes that a sensible emergency alert policy must take into account both the massive investment by industry in place today – an investment that defines the capabilities that can be used this year and next – and the technological developments that propel the industry in the long run.[24] Like many other high-tech industries, the wireless industry continually experiences change and renewal. Wireless carriers have invested billions of dollars in their networks. In turn, consumers have invested billions of dollars in handsets, wireless PDAs, and data cards. Indeed, it is likely that an EAS service could require replacement of handsets.

Numerous issues have been identified as CTIA and the industry explore various point-to-point and point-to-multipoint delivery mechanisms to expand EAS to include wireless. Specifically, the wireless industry faces the unique challenge of possibly adapting the existing wireless network, which transmits messages from point-to-point, to accommodate mass distribution of warning alerts.[25] Consequently, technical, operational, and policy questions exist

[24] *See* Guttman-McCabe Testimony at 2.

[25] *See* discussion *infra* p. 3; CTIA Comments at 1.

regarding various mechanisms for delivery of public alert messages via any solution. For example, EAS as currently configured, is designed to deliver voice messages, which would not be viable over current wireless systems. Who would be tasked and by what means will the President's message be converted into a limited text message? Further, the industry must consider issues such as cost, battery life, system control, message authentication, and others. Lastly, a critical consideration is that the impact of wireless-based emergency alerts on the subsequent functioning of the wireless network is unknown. As the Commission and the wireless industry move forward, the relationship between alerting messages (of various types and formats) and network performance needs to be carefully investigated lest unforeseen negative effects overwhelm the benefits of wireless EAS.

CONCLUSION

CTIA recommends that the Commission work to revitalize and improve the existing Emergency Alerts Service, which will be best accomplished through a cooperative effort among the affected government and industry parties. CTIA and the wireless industry look forward to continuing the government/industry partnership toward the development of an Emergency Alert Service that takes into account both the tremendous investment and the technological developments that propel the industry.

Respectfully submitted,

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